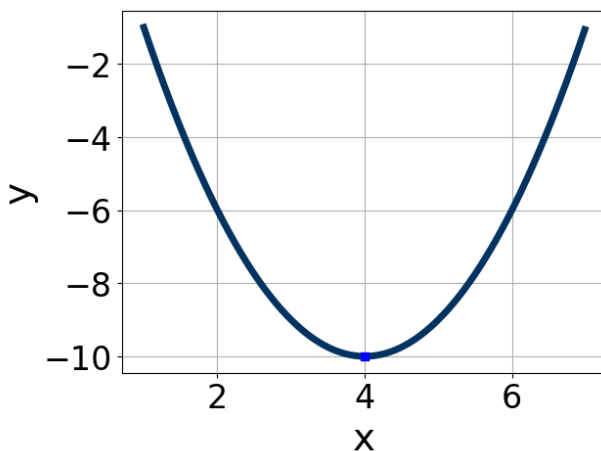1. Solve the quadratic equation below. Then, choose the intervals that the solutions x_1 and x_2 belong to, with $x_1 \leq x_2$.

$$25x^2 - 60x + 36 = 0$$

A. $x_1 \in [0.54, 0.61]$ and $x_2 \in [1.77, 2.78]$

B. $x_1 \in [0.17, 0.35]$ and $x_2 \in [4.56, 6.52]$

C. $x_1 \in [29.74, 30.37]$ and $x_2 \in [29.71, 30.04]$

D. $x_1 \in [0.76, 1.75]$ and $x_2 \in [1.01, 1.77]$
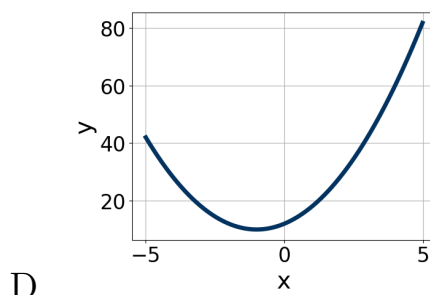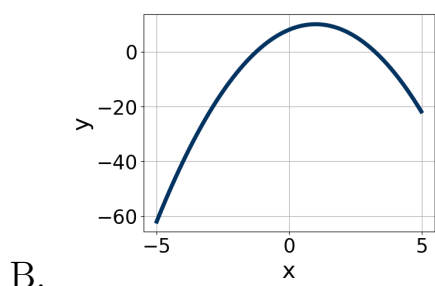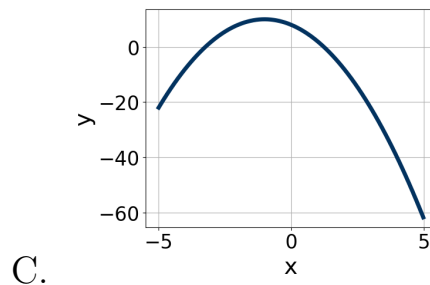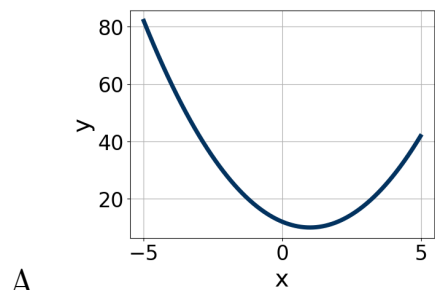
E. $x_1 \in [0.37, 0.55]$ and $x_2 \in [3.25, 4.59]$

2. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that $a, b,$ and c belong to.

A. $a \in [-1.8, -0.5]$, $b \in [-10, -5]$, and $c \in [-26, -23]$

B. $a \in [0.7, 1.1]$, $b \in [5, 11]$, and $c \in [6, 9]$

C. $a \in [-1.8, -0.5]$, $b \in [5, 11]$, and $c \in [-26, -23]$

D. $a \in [0.7, 1.1]$, $b \in [-10, -5]$, and $c \in [6, 9]$

E. $a \in [0.7, 1.1]$, $b \in [5, 11]$, and $c \in [25, 27]$
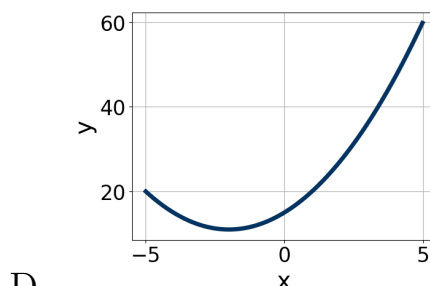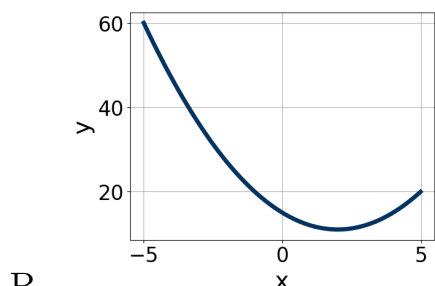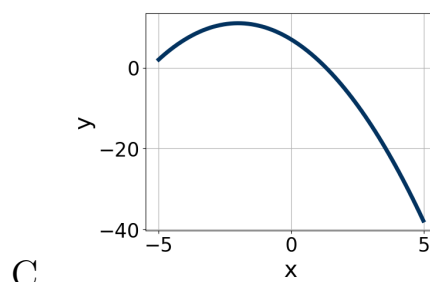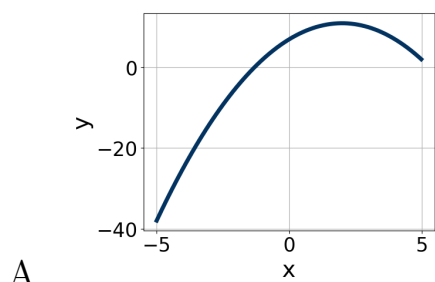
3. Graph the equation below.

$$f(x) = -(x+1)^2 + 10$$

A.

C.

B.

D.

E. None of the above.

4. Graph the equation below.

$$f(x) = -(x+2)^2 + 11$$

A.

C.

B.

D.

E. None of the above.

---

5. Solve the quadratic equation below. Then, choose the intervals that the solutions x_1 and x_2 belong to, with $x_1 \le x_2$.

$$25x^2 - 60x + 36 = 0$$

A. $x_1 \in [0.07, 0.26]$ and $x_2 \in [5.1, 7.2]$

B. $x_1 \in [0.33, 0.56]$ and $x_2 \in [2.8, 4]$

C. $x_1 \in [0.93, 1.44]$ and $x_2 \in [0.9, 2]$

D. $x_1 \in [0.53, 0.83]$ and $x_2 \in [2.1, 2.8]$

E. $x_1 \in [29.93, 30.26]$ and $x_2 \in [29.6, 30.2]$

---

6. Solve the quadratic equation below. Then, choose the intervals that the solutions belong to, with $x_1 \le x_2$ (if they exist).

$$-10x^2 - 7x + 2 = 0$$

A. $x_1 \in [-2.59, -2.04]$ and $x_2 \in [9.07, 10.05]$

B. $x_1 \in [-13.12, -11.38]$ and $x_2 \in [10.67, 11.15]$

C. $x_1 \in [-0.75, 0.18]$ and $x_2 \in [0.63, 1.43]$

D. $x_1 \in [-1.05, -0.78]$ and $x_2 \in [-0.47, 0.34]$

E. There are no Real solutions.

---

7. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that a, b, and c belong to.
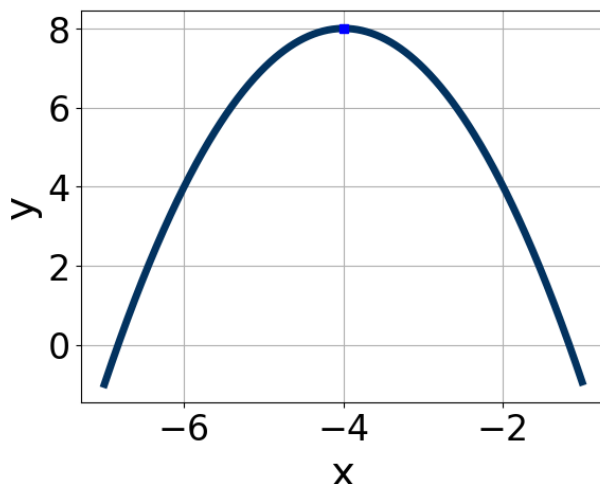
A. $a \in [-2, 0]$, $\quad b \in [5, 12]$, and $\quad c \in [-9, -7]$

B. $a \in [-2, 0]$, $\quad b \in [-8, -7]$, and $\quad c \in [-9, -7]$

C. $a \in [-2, 0]$, $\quad b \in [5, 12]$, and $\quad c \in [-24, -18]$

D. $a \in [1, 2]$, $\quad b \in [-8, -7]$, and $\quad c \in [21, 28]$

E. $a \in [1, 2]$, $\quad b \in [5, 12]$, and $\quad c \in [21, 28]$

---

8. Factor the quadratic below. Then, choose the intervals that contain the constants in the form $(ax + b)(cx + d); b \leq d$.

$$36x^2 + 37x - 10$$

A. $a \in [2, 3.3]$, $\quad b \in [-4, 0]$, $\quad c \in [11.51, 12.51]$, and $\quad d \in [5, 11]$

B. $a \in [14.6, 18.7]$, $\quad b \in [-4, 0]$, $\quad c \in [1.12, 2.35]$, and $\quad d \in [5, 11]$

C. $a \in [6.4, 9.6]$, $\quad b \in [-4, 0]$, $\quad c \in [3.3, 4.64]$, and $\quad d \in [5, 11]$

D. $a \in [-0.7, 2.2]$, $\quad b \in [-8, -4]$, $\quad c \in [0.62, 1.09]$, and $\quad d \in [40, 50]$

E. None of the above.

---

9. Factor the quadratic below. Then, choose the intervals that contain the constants in the form $(ax + b)(cx + d); b \leq d$.

$$54x^2 - 57x + 10$$

A. $a \in [16, 20]$, $b \in [-8, -4]$, $c \in [1.1, 3.8]$, and $d \in [-8, -1]$

B. $a \in [2, 4]$, $b \in [-8, -4]$, $c \in [15.3, 18.3]$, and $d \in [-8, -1]$

C. $a \in [-1, 2]$, $b \in [-47, -41]$, $c \in [-1.5, 1.3]$, and $d \in [-12, -9]$

D. $a \in [4, 8]$, $b \in [-8, -4]$, $c \in [6.7, 12.2]$, and $d \in [-8, -1]$

E. None of the above.

---

10. Solve the quadratic equation below. Then, choose the intervals that the solutions belong to, with $x_1 \le x_2$ (if they exist).

$$17x^2 + 9x - 3 = 0$$

A. $x_1 \in [-17.47, -16.76]$ and $x_2 \in [16.34, 17.07]$

B. $x_1 \in [-0.3, 0.67]$ and $x_2 \in [0.59, 1.42]$

C. $x_1 \in [-13.31, -12.64]$ and $x_2 \in [3.72, 4.19]$

D. $x_1 \in [-0.82, -0.57]$ and $x_2 \in [-0.77, 0.32]$

E. There are no Real solutions.